are of special interest. According to this observer, Ornithorhynchus digs a burrow whose mouth lies below water level on the steep bank of a stream, and whose zigzag course leads to an enlarged nesting chamber at a level above high-water mark. The nest chamber is said to be as large as a platter and as high as a loaf of bread. The nest is lined with hair taken from the backs of the male and the female. On one occasion a nest was found with two eggs in it, both of which were unfortunately broken. At another time a female was observed suckling her two young. The female had no nipples. She lay on her back, and her young tapped with their bills about the small sieve-like openings of the mammary glands. The milk ran from these into a median groove on the skin formed by the longitudinal musculature, and from this groove the milk was taken by the young. The young remain in the nest till they attain a size of twelve centimeters, and when twenty centimeters in size they venture with the mother on the water.

G. H. P.

New Goby from Clipperton Island. — In the *Proceedings of the New England Zoölogical Club* for June 9, 1899, Vol. I, p. 63, Mr. Samuel Garman describes a new goby from Clipperton Island, off the west coast of Mexico, as *Gobius arundelii.* In the rather minute subdivision of genera adopted by Jordan and Evermann this species is probably referable to Aboma.

D. S. J.

The Chelæ of the Lobster. — The forms of the chelæ in lobsters have been reinvestigated by Stahr.[1] In the great majority of cases the European as well as the American lobster possesses two chelæ of typically different shapes. One is thin-walled, delicate, and provided with small teeth. The other is swollen and large, and has its biting surfaces covered with an irregular double row of knob-like eminences. The occurrence of these two forms of chelæ is not correlated with sexual differences or sides of the body. In the American form animals with both chelæ of the delicate type are of rare occurrence, but this condition is not so uncommon among the European lobsters. The delicate type of chelæ possesses teeth of four sizes arranged in eight-place intervals, and it may also carry an additional tooth not unlike those found on the heavier type of chela. Although the representatives of these two types are as a rule easily

[1] Stahr, H. Neue Beiträge zur Morphologie der Hummerschere mit physiologischen und phylogenetischen Bemerkungen, *Jenaische Zeitschrift*, Bd. xxxii, pp. 457–482, Taf. xx-xxi, 1898.

distinguishable, intermediate forms occur. The more delicate type is well supplied with tactile hairs.

The author believes the delicate type of chela to be the more primitive of the two. He rejects the explanation that it is a cutting jaw as contrasted with a crushing jaw, and believes that it represents an ornamental structure. The rhythmical arrangement of its teeth is dwelt upon, and he suggests that as a crustacean's eye plays over such a series it may receive agreeable impressions. The paper is well written in that the observational and theoretic parts are clearly separated.

G. H. P.

Cestodes of Aplacentalia. — Zschokke has just published [1] a most important article on the anoplocephaline cestodes, the immediate occasion of which was the examination of material brought from Celebes by the Sarasins. The specimens, fortunately well preserved, were taken from *Phalanger ursinus*, and represented two closely allied species of the genus Bertia. They proved to be new and were named *B. edulis* and *B. sarasinorum*. Regarding the specific name, *edulis*, Zschokke says that according to the report of the Sarasins, who obtained repeated and unimpeachable evidence of the fact, the tapeworms of Phalanger are hunted and eaten with gusto by the natives of Celebes. "Phalanger appears, by virtue of its parasites, to be subjected to more than one disadvantage!"

The anatomical structure of the two species is treated in detail. *B. edulis* is a large form, 660 mm. long with 1500 proglottids; *B. sarasinorum* has, on the contrary, a maximum length of 70 mm., with only 220 proglottids. Further differences are found in the manner of union of the excretory loops in the scolex, in the number, size, and arrangement of the sexual organs, and in many minor points, so that despite their similarity the two are undoubtedly good species. Closely related to them is *Tænia obesa* from *Phascolarctus cinereus*, while somewhat similar are *T. echidnæ* from *Echidna hystrix*, and *T. semoni* from *Perameles obesula*. Information on all of these forms comes from previous studies by Zschokke.[2] *T. festiva*, described in 1819 by Rudolphi from *Macroperus giganteus*, is undoubtedly an anoplocephaline form, probably of the genus Moniezia; it is only imperfectly known.

[1] Zschokke, F. Neue Studien an Cestoden aplacentaler Säugethiere, *Zeitschrift f. wiss. Zool.*, Bd. lxv, 3, pp. 404–445, Pls. xx, xxi, 1899.

[2] Die Cestoden der Marsupialia und Monotremata, *Semon, Zool. Forschungsreisen, Jenaische Denkschriften*, Bd. viii, 1898.